

**LIMITATIONS OF LEGAL ENFORCEMENT IN BIO –  
MEDICAL WASTE MANAGEMENT IN INDIA****Pavithra Kumari**

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**Cite This Article:** Pavithra Kumari, “Limitations of Legal Enforcement in Bio – Medical Waste Management in India”, International Journal of Engineering Research and Modern Education, Volume 2, Issue 1, Page Number 33-36, 2017.**Copy Right:** © IJERME, 2017 (All Rights Reserved). This is an Open Access Article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.**Abstract:**

Bio medical is generated by the hospital during the diagnosis, treatment of human beings or animals. The form of biomedical waste is solid as well as liquid form. The basic components of bio medical waste consist of human anatomical waste, micro biology and bio technology waste, waste sharps, discarded medicines and cytotoxic drugs, soiled waste, solid waste, liquid waste generated from any of the infected areas, animal waste, incineration ash, chemical waste etc. The bio medical waste generated by the hospital is very dangerous and affects the human health and to the environment there to. Even though there are Bio-Medical Waste Management Rules implemented in India, but it's not able to manage the bio medical waste management effectively. It has its own loop holes to control the mishandling of Bio Medical waste generated by the private as well as government hospital. The bio medical waste management follows the four essential steps: Biomedical waste generation, biomedical waste segregation, collection and storage, biomedical waste handling and transportation, biomedical waste treatment and disposal. The hospital must give all the required effluent treatment to disinfect before disposing of the bio medical waste. This study mainly highlights on the health related issues of bio medical waste, sources of biomedical waste, the role of private and government hospital while handling the bio medical waste, existing law in India and its limitation as well as the socio-economic implementation of bio medical waste management rules in India.

**Index Terms:** Bio-Medical Waste, Cytotoxic Drugs, Anatomical Waste, Chemical Waste & Bio Technology Waste**1. Introduction:**

Medical care is necessary to the continuation of life, but it generates a lot of waste which is dangerous to the environment as well as human life. There are different types of waste is generated by the clinics and hospitals, viz, cotton, syringe, needles, gloves, liquid wastes, time-barred medicines etc, The scientists, researcher, NGOs, environmental protection activist understood that human behaviors and activities causing major damage to the environment, and they had put forward their pressure on the government to make proper rules for the bio- medical waste handling. As a result in India, the Bio-Medical Waste (Management and Handling) Rules of 1998 have been passed under the Environment (Protection) Act of 1986. The government made a proper evaluation of working capacity of this rules and as a modification to existing rule, the new rule passed in 2016. The sustainable development of the environment is the major responsible of every individual. The bio-medical waste generated by the hospitals, clinics, drug house and laboratories are most hazardous and dangerous in nature. Today's world most of the people are not properly aware about the consequences of the mishandled bio medical wastes. Anymore it is not possible stop the generation of hospital waste, but we can try to proper management of the bio medical waste in order to product the lives and environment. There is lot of issues involved in the bio-medical waste management like collection, segregation, transportation, incineration etc.

**2. Meaning and Definition of Bio-Medical Waste:**

The waste which is produced during the process of test, treatment of human beings, animals as well as in research activities pertaining to it are called as bio-medical waste or hospital waste. It may be in the liquid form or solid form. The bio-medical waste is infectious in nature and it may cause damage to the human beings as well as to the environment. Bio-medical waste is different from the domestic waste or industrial waste and while comparing any other waste bio-medical waste is very dangerous in nature. The common producer of bio-medical waste is hospitals, labs, clinics, dental clinics and hospitals, laboratories, veterinary hospitals and clinics, medical and bio research centre's etc.,

**3. Types of Bio-Medical Waste:**

In India the central government has framed a rule for the bio-medical waste management which is named as 'Bio-medical Waste (Management and Handling) Rules, 1998,' notified on 20th July 1998, and updated in 2016 with all the new changes. This Rule provides uniform guidelines and code of practice for the whole nation. As per the parental rule of 1998 there are ten different categories of bio-medical waste has been listed out. They are as follows:

- ✓ Human Anatomical Waste for example tissues, organs, body parts etc.),

- ✓ Animal Waste during veterinary treatment and research
- ✓ Microbiology and Biotechnology Waste for example, laboratory cultures, micro-organisms, human and animal cell cultures, toxins etc.,
- ✓ Waste Sharps, such as, hypodermic needles, syringes, scalpels, broken glass etc.
- ✓ Discarded Medicines and Cyto-Toxic Drugs
- ✓ Soiled Waste, for example dressing, bandages, plaster casts, material contaminated with blood etc.,
- ✓ Solid Waste like disposable items like tubes, catheters etc. excluding sharps.
- ✓ Liquid Waste blood and other liquid form wastes
- ✓ Incineration Ash,
- ✓ Chemical Waste

#### **4. Sources of Bio-Medical Waste:**

The major source of waste is generated from the private and government hospitals, PHCs, medical colleges and research centre's, veterinary colleges and research centre's, mortuaries etc., and the minor source waste is generated from the clinics, medical camps, blood donation camps, veterinary clinics, laboratories etc. The quantity of the bio-medical waste is increasing day by day in every part of the world. The bio-medical waste may cause the life risk and damage to the people who handle the waste, hospital occupants as well as general public and environment too.

#### **5. Health Related Issues of Bio-Medical Waste:**

The present major problems of bio-medical waste management are that most of the hospitals have been failed to implement and follow the Rules related to the Bio medical waste. The small clinics and even some hospitals mixing the hospital waste with general waste in order to avoid the expenses of handling the bio medical waste. The bio-medical waste which kept in some areas may spread different diseases to the people who ever get contacted with it. It also creates unpleasant odor and crates the chance to grow insects, rodents and worms. It may create to transmission of different diseases like typhoid, hepatitis, jaundice, parvovirus, skin irritation and allergies, plague, rabies etc. the most victim of the bio medical waste is the people who handle the bio medical waste, the hospital or clinic employees, hospital in patient and out patients, the waste carrying vehicle drivers, rag pickers and so on.

#### **6. Role of Private and Government Hospital in Handling Bio Medical Waste:**

The private, as well as the government hospital, has the private role in managing the bio-medical waste more systematically. The medical assistance is part of every living beings life. It is not possible to stop or avoid the generation of bio-medical waste, but the proper method and systematic handling of bio medical waste may reduce the impact on human life as well as the environment. The hospitals and even the clinics should have the proper knowledge about the impact of bio- medical waste. The medical professionals being educated must have the concern about the others health and they should not make their employees involved in illegal disposal of waste which gets mixed with the domestic waste. The illegal disposal of waste is becoming quite common in now days. The hospitals have major responsibilities to handle the bio medical waste legally and socially, they are

- ✓ The hospital should follow the rules systematically and adopt the legal method to collect and segregate the waste as per its required disposal.  
There should be proper trained and skilled employees should be appointed to handle the waste.
- ✓ The hospital should conduct time to time training and awareness programs to the personnel are those who are engaged in handling the bio-medical waste.
- ✓ The hospital must see that the collected bio-medical waste is disposed within 24 hours.
- ✓ The hospital should keep the colour coded bag to put the different type of waste with general directions.
- ✓ While conducting medical camps in outside properties, the hospital should take proper step to collect the bio-medical waste.

#### **7. Legislative Aspect Related to Bio Medical Waste in India:**

Various central legislations related to biomedical waste management in India are as follows

- ✓ The water (prevention and control of pollution) Act, 1974
- ✓ The Air (prevention and control of pollution) Act, 1981
- ✓ The Environment (Protection) Act, 1986
- ✓ The hazardous waste (management and handling) rules, 1998
- ✓ The Biomedical waste (management and handling) rules, 1998
- ✓ Municipal Solid waste (management and handling) rules, 2000
- ✓ The Biomedical waste (management and handling) rules, 2016

#### **8. The Biomedical Waste (Management and Handling) Rules, 2016:**

These rules shall apply to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio-medical waste in any form including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks, Ayush hospitals, clinical establishments,

research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, first aid rooms of schools, forensic laboratories and research labs. This Rule clearly spoke about the types of waste, collection of waste, segregation and its disposal as well as the powers and authority of the central pollution board and state pollution board to implement the rules and monitor the rules.

#### **9. Limitation on Implication of Rules:**

Even though we have updated new rules to manage the bio medical waste in India, but it is a failure to give total success result due to several reasons. The rule has given complete power to the local self-government as well as to the state and central pollution control board. It is the duty of the pollution control board to inspect the hospitals time to time without prior notice and if any hospital found in guilty of non-commencement of the bio-medical rules in their hospital, there is a strict action should be taken against such hospital which may result in closing down of the hospital without any hesitation. Even though rules have mentioned different types of treatment to the bio-medical waste, but it's difficult to follow the disposal methods in the city hospitals, which may effect to the neighboring residential areas and people. In order to dispose of the bio medical waste generated in the hospital, the hospital need depends private contractor (Ex: RAMKY) to carry the waste and dispose of it, which becomes more expensive for the small clinics. The illegal disposal of bio-medical waste becomes quite common in a nation. The law may not be able to monitor the rules follower completely. It is not easy to identify the illegal disposer because they mix the bio-medical waste with general waste and through to the local dustbins. This is one of the major issues which cannot be solved so easily by the authorities. Apart from that the influence and bribe also cause to protect the defaulters.

**Socio-Economic Implementation of Rules:** The awareness is lacking with the people with regards to the bio-medical waste and its impact on health and environment. The concerned authorities must take the step forward to bring the social awareness about the impact of illegal disposal of bio medical waste on human health and an environment. The bio medical waste management rules strictly provided the procedure for incineration, land filling and effluent chemical treatment for the bio medical waste. But, this procedure is more expensive in nature as well as the private contractors of bio medical waste management are also imposing huge charges, which becomes economically little difficult for the small clinics. So, in order to avoid the charges the clinics and some hospital go for illegal disposal of bio medical waste. The another major problem is the delay in payment to the private contractor especially by the government hospital create major issues like a non collection of waste for days together and overflow storages etc... which is very risky and dangerous to the surrounding environment.

#### **10. Suggestions:**

After making some the conceptual study on bio-medical waste management I would like to give some of the personal suggestions:

- ✓ There should be immediate order to close down the hospitals or clinics whoever failed to follow the rules.
- ✓ The pollution control board should be very strict in nature and they should go for the inspection without any prior notice.
- ✓ The special squad should be appointed by the central government to monitor the implementation of bio medical waste management rules in India.
- ✓ The government should attempt to educate the people in general public about the consequence of mishandling bio medical waste.
- ✓ The environmental science should be compulsory subject to all the courses with the chapters of bio medical waste and its impact.
- ✓ The government should build its own unit to the disposal of the bio medical waste than the private contractors.
- ✓ For the disposal and use of incinerator, Training should be given to some number of persons from staff.
- ✓ Every hospital should have special colour coded bags to use as the dustbin for bio-medical waste.
- ✓ Every hospital should have special closed container vehicle to carry the waste.
- ✓ There should be proper training and precaution should be provided to the people who ever handle the bio medical waste.

#### **11. Conclusion:**

In conclusion, I would like to say that hospital wastes should be segregated according to their source, type and risk factors associated with their handling, storage and ultimate disposal. All of us have the duty to protect the environment, with a proper contribution to nature. The bio medical waste is one of the risky and hazardous wastes which may impact on human health as well as the environment. In the coming year, we need to adapt the prospective changes to handle the bio-medically waste more efficiently by making use of new technologies. The government needs to make time to time dynamic rules to handle the bio medical waste more systematically.

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